

APPENDIX

Amendments in the Claims

1. (Currently Amended): A node device for connecting a plurality of networks at least one of said plurality of networks having higher speed transmission lines than other transmission lines in the plurality of networks, said node device comprising:

a plurality of input units for respectively inputting data from first transmission lines installed in each of said plurality of networks;

a plurality of output units for respectively outputting data to second transmission lines installed in each of said plurality of networks;

a first switching unit for switching the data input from said input units to said output units; and

a control unit transmitting switching information only via the higher speed transmission lines and at least one higher speed input unit when trouble occurs in the higher speed transmission lines shared by said plurality of networks; and

a memory unit for storing ring construction information that indicates that said first transmission lines and said second transmission lines connect to which of said plurality of networks;

a transmission unit for producing topology information, squelch information and switching information concerning each of said plurality of networks on the basis of said ring configuration information for each of the corresponding networks, and transmitting said topology information, said squelch information and said switching information via said output units; and

a second switching unit for performing processing including switching operations and bridging operations on the basis of said switching information,

wherein the input unit that inputs data from the transmission line shared by said plurality of networks to be output to the higher speed transmission lines has a higher transmission speed than other input units.

2. (Original): The node device according to claim 1, wherein at least one of said input units has transmission speeds that differ from those of the other input units, and at least one of said output units has transmission speeds that differ from those of the other output units.

3. (Original): The node device according to claim 1, wherein the output unit that outputs data to a transmission line shared by said plurality of networks among said second transmission lines has a higher transmission speed than other output units.

4. (Cancelled)

5. (Previously Presented): A node device for connecting a plurality of networks, at least one of said plurality of networks having higher speed transmission lines than other transmission lines in the plurality of networks, said node device comprising:

a plurality of input units for respectively inputting data from first transmission lines installed in each of said plurality of networks;

a plurality of output units for respectively outputting data to second transmission lines installed in each of said plurality of networks;

a first switching unit for switching the data input from said input units to said output units; and

a control unit transmitting switching information only via the higher speed transmission lines and at least one higher speed input unit when trouble has occurred in said higher speed transmission lines shared by said plurality of networks[.];

a detection unit for detecting trouble in said first transmission lines; and

a judgment unit for judging whether or not switching information is to be transmitted by said transmission unit to all of the networks to which said shared transmission line is connected, or to one of the networks among said networks when said detection unit detects trouble in said shared transmission line,

wherein the input unit that inputs data from the transmission line shared by said plurality of networks to be output to the higher speed transmission lines has a higher transmission speed than other input units.

6. (Original): The node device according to claim 1, said node device further comprising:

a multiplexing unit for multiplexing data by using the digital wrapper method or OHBT method, and sending this data to said output units when data is switched and output to said output units from said input units that have a transmission speed lower than that of said output units.

7. (Original): The node device according to claim 1, wherein said input units input frame data that has been multiplexed by using the digital wrapper method or OHBT method, and said node device further comprises demultiplexing units for demultiplexing said frame data input from said input units, and sending this data to said output units that have a lower transmission speed than said input units.

8. (Original): The node device according to claim 1, wherein said first and second transmission lines are formed by optical fibers, and said data is transmitted and received along said first and second transmission lines after being multiplexed by time slots or by wavelength division multiplexing in which wavelengths correspond to said time slots.

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9. (Currently Amended): A network system comprising:

a first network in which a plurality of first node devices are connected by transmission lines;

a second network in which a plurality of second node devices are connected by transmission lines; and

a third node device which is connected to some of the transmission lines of said first network and some of the transmission lines of said second network, said third node device transmitting and receiving the data transmitted and received by at least one of said transmission lines connected to said third node device at a higher speed than the data transmitted and received by the other transmission lines of said first network and transmission lines of said second network,

wherein said third node device further comprises:

a control unit transmitting switching information only via the higher speed transmission lines in which no fault occurred when trouble occurs in the higher speed transmission lines connected to said third node device;

a memory unit for storing ring construction information that indicates which of said transmission lines connect to which of said first and second networks;

a transmission unit for producing topology information, squelch information and switching information concerning each of said first and second networks on the basis of said ring configuration information for each of the first and second networks, and transmitting said topology information, said squelch information and said switching information; and

a switching unit for performing processing including switching operations and bridging operations on the basis of said switching information.

10. (Original): The network system according to claim 9, wherein at least two of said third node devices are disposed adjacent to each other, and the data that is transmitted and received by said transmission lines between said at least two of said third nodes devices is transmitted and received at a higher speed than the data that is transmitted and received by the other transmission lines of said first network and transmission lines of said second network.

11-12. (cancelled)

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